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PROGRESS REPORT - 1955

A Study of the Yields and Relationships of Various Grades of Processed Fruits and Vegetables from Given Grades of Raw Materials

IV. Sweet Corn for Processing

by

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Mimeograph Series No. 151

January
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PROGRESS REPORT - 1955

A STUDY OF THE YIELDS AND RELATIONSHIPS OF VARIOUS GRADES OF PROCESSED FRUITS AND VEGETABLES FROM GIVEN GRADES OF RAW MATERIALS

IV SWEET CORN FOR PROCESSING

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Contents

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Since this is a progress report (2nd year) and since the study is to be continued for another year, no discussion or summary and conclusion are included in this report.

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This is part IV (Progress Report) of a series of publications on a study of the relationship of various grades of fresh and canned vegetables.

Part I of this series dealt with Canned Tomatoes (Published April, 1953)

Part II of this series dealt with Canned Tomato Juice (Published January, 1954)

Part III of this series dealt with Canned Tomato Pulp (puree) Published July, 1953)

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A STUDY OF THE YIELDS AND RELATIONSHIPS OF VARIOUS GRADES OF PROCESSED FRUITS AND VEGETABLES FROM GIVEN GRADES OF RAW MATERIALS[1]

Progress Report - 1955
(IV Sweet Corn for Processing)

INTRODUCTION

Out of a total of 126 canning factories in the state of Ohio, there are 26 plants processing whole kernel sweet corn and cream style sweet corn. On the basis of 1951 figures, Ohio ranks eighth in the total volume of sweet corn, whole kernel and cream style, canned in the U. S. Within the state, corn is the second largest canning crop (exceeded only by tomatoes) on the basis of acreage and cases packed. Since 1930 there has been an upward trend in the production of sweet corn for processing in the U. S.; however, in Ohio the production of sweet corn reached its peak during the war years and since 1947 there has been a slight decrease in corn production for processing.

Since the inauguaration of Federal-State Inspection Service in Ohio in 1929, a study of the grade relationships and the advantages or disadvantages, accruing to farmers and processors as a result of the service, has been conducted only recently (1949, 1950,1951 and 1952) on tomatoes and tomato products. However, work has been conducted at Ohio State for the past five years on the evaluation of varieties of sweet corn for processing, including degrees of maturity as they affect the quality the processed product, as well as the development and application of methods of objectively measuring the maturity of sweet corn, on both the raw product and processed product. However, little use has been made of the Fresh Fruit and Vegetable Inspection

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1. This work was conducted as a part of a cooperative project between The Ohio Agricultural Experiment Station and The U. S. Department of Agriculture under the Agricultural Marketing Act of 1946.

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Divisions and the standards for grades of sweet corn for canning in the state of Ohio, although the processed products are graded on the basis of the U. S. canned and frozen standards. Further, very little research has been conducted, to date, concerning the various factors which influence the quality of canned cream style sweet corn and frozen corn-on-the-cob.

Finally, there is an increasing need by the industry for objective quality determinations of both the raw and processed product to determine the effect of the quality of the raw product on the quality of the finished product on the basis of existing U. S. Standards with the object of improving the correlation of these standards of grades for fresh and processed corn.

This research project on sweet corn, therefore, has been developed with the following primary objectives:

1. Determine quality and yield of processed products (canned and frozen) from various qualities of fresh sweet corn for processing.
2. Ascertain possible improvements in the U. S. Grades and grading methods for raw corn, canned whole kernel sweet corn, canned cream style sweet corn, frozen whole kernel sweet corn, and frozen sweet corn-on-the-cob including modifications warranted by the development of objective methods for the measurement of quality factors for sweet corn to increase the usefulness of these grades.

EXPERIMENTAL METHODS

Varieties

Tendermost and Victory Golden were the primary sweet corn varieties used in 1953. A combination of several varieties was used in a study of formulation for cream style corn. The sweet corn was grown on the horticulture farm at The Ohio State University, Columbus, Ohio.

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The first planting of both varieties in 1953 was made on May 21 and in 1954 on May 20. Three successive plantings were made in both years after approximately 100 growth degree day units had acculmulated. Starting on July 25 and at weekly intervals thereafter, observations of the growing plant and maturing ear were made in the field. These observations are recorded in TABLE 1-a and 1-b.

The first harvest in 1953 was made on August 10 and on August 10 in 1954. Harvesting was continued until September 9 in 1953 and September 11 in 1954 at two to four day intervals between pickings. The harvesting date, accumulated heat units (growth degree days), average AIS values, gross weight, and U. S. raw product grade are give in TABLE 2-a and 2-b.

Grading Raw Product

At each harvest each lot was graded by a Federal-State Fruit and Vegtable Inspector. The inspection procedure is given below:

I. Remove a sample of each lot

1. Weigh out 50 lbs. of a representative sample
2. Husk on mechanical husker
3. Grade husked ears into 3 grades in accordance with U. S. Standards for Sweet Corn for canning (2/15/45).
4. Calculate % of each grade and record on form No. WAG-55 Rev. (Given below).
5. Classify grades 1 & 2 into three maturity classes in accordance with above standards.
6. Weigh each maturity class.
7. Calculate % of each maturity class and record on form No. WAG-55 Rev.
8. Count number of ears in each maturity class and record on form WAG-55 Rev.
9. Cut each maturity class on a single corn cutter.
10. Weigh each maturity class and calculate percent and record on form No. WAG-55 Rev.

II. Total sample

1. Grade each ear of corn into three maturity classes as above and throw out culls.
2. Weigh the separate grades and determine % of each grade including the culls and record on form No. WAG-55 Rev.

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USDA RAW PRODUCT SAMPLE DATA WAG - 55 Rev.

Lot No.____:_____ Variety_____Date:_____

U. S. No. 1 Husked ears:_____lbs;_____percent

U. S. No. 2 Husked ears:_____lbs;_____percent

U. S. Culls Husked ears:_____lbs;_____percent

TOTAL :_____ _____percent

Maturity classification of husked ears:

Class A:_____lbs;_____percent_____count

B:_____lbs;_____percent_____count

C:_____lbs;_____percent_____count

Culls _____count

TOTAL: _____lbs:_____percent_____count

CUT OFF OF HUSKED EARS:

Class A:_____lbs:_____percent

B:_____lbs;_____percent

C:_____lbs:_____percent _____

Inspector

The data from the grading of each lot is summarized by harvest in TABLE 2-a and 2-b.

Processing Methods

After grading the corn into the respective maturity classifications, the corn of each lot by variety and maturity classification was processed into one or more of the following products: whole grain canned corn, whole grain frozen corn, cream style canned corn, and frozen corn-on-the-cob.

The specific procedures for each processed product are given below:

A. Whole Grain Canned Corn.

1. Harvest corn by plantings - 4 harvests or lots per planting (Lot constitutes one variety at each picking. 16 lots per variety per season).

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2. Husk corn with mechanical corn husker.

3. Sort corn (USDA Inspector) into maturity classes (A, B, and C), weigh and calculate percent of each. Keep lots separate.

4. Trim, wash and clean corn on the cob in soaker tank.

5. Cut corn on mechanical corn cutter with knives adjusted to give full cut for each maturity class.

6. Wash and desilk corn in rod-reel washer.

7. Remove defective kernels, pieces of cob and silk on continous inspection belt. Defects removed should be approximately the same as those removed by commercial canners.

7a. Weigh cut corn and calculate percent cut-off.

8. Blanch cut corn in a continuous live steam blancher to inactivate enzymes and cool to 75°-85° F. immediately by spray washing.

9. Fill into No. 2 size C-enamel cans (approximately 12 ounces).

10. Cover with boiling water containing sodium chloride. (Use 1.5% or 0.1264 lbs. salt per gallon or 0.632 lbs. per 5 gallons).

11. Exhaust in live steam.

12. Seal and code can.

13. Process in non-agitating retort for 25 minutes at 250° F.

14. Cool promptly to 100° F. in running cold water.

B. Whole Grain Frozen Corn.

1-8. Steps 1-8 above for whole grain canned corn will be followed for whole grain frozen corn.

9. Pack 16 ounces in tin cans, seal and code.

10. Immediately freeze to 0° F. on a -20° F. single contact plate freezer.

11. Store product at 0° F. in non-fluctuating temperature storage.

C. Cream Style Corn

1-4. 1-4 above for whole grain corn will be the same for canned cream style corn.

5. Cut corn on mechanical corn cutter, make single cut 3/16" deep and scrape (conventional cream style corn).

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5a. Cut corn on mechanical corn cutter as whole grain corn. Divide corn into 2 lots. One lot to be comminuted (cream component) and other lot to be slitted (whole kernel component).

6. Weigh cut corn and calculate percent cut-off.

7. Make up batches of corn with varying amounts of corn and water for the different stages of maturity. (corn 50 lbs.)

8. Preheat with live steam in agitating corn mixer to 200°F.

9. Add sugar, salt and corn starch as follows: (to 7)

Salt.....35 pounds
Sugar.....3.5 pounds
Starch*..... 3 ounces (vary with maturity)
*Starch made up in cold water paste before adding.

10. Fill in No. 2 size C-enamel cans.

11. Seal and code cans.

12. Process at 250° F. for 70 minutes in a non-agitating retort.

13. Cool promptly to 100° F. in cold running water.

D. Frozen Corn-on-the-cob.

1. Select 50 ears at random for each variety, at each maturity and each harvest.

2. Husk corn with mechanical corn husker.

3. Trim, wash and clean corn-on-the-cob in a soaker tank.

4. Blanch, in a continuous live steam blancher to inactivate enzymes.

5. Cool blanched corn to 75°-80° F. in a continuous water spray cooler.

6. Pack two ears each in cellophane bags, seal and code.

7. Immediately freeze on a -20° F. single contact plate freezer.

8. Store product at 0° F. in non-fluctuating temperature storages.

Grading of Finished Product

After 2, 6, and 14 months storage, samples from the respective processed products are being graded by the U.S.D.A. Processed Products Inspection Service

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in accordance with the respective standards for grades for the different products. A summary of the score points for each factor of the different products are presented in TABLES A, B, C and D.

TABLE A. U. S. Standards for Grades of Canned Whole Kernel (Whole Grain) Corn (July 30, 1952).

Factors	Score Points			
	Grade A	Grade B	Grade C	Grade D
Color	9-10	8	6-7*	0-5**
Cut	9-10	8	6-7**	0-5**
Absence of Defects	18-20	16-17**	14-15**	0-13**
Tenderness and Maturity	36-40	32-35**	30-31**	0-29**
Flavor	18-20	16-17	14-15**	0-13**
Total Score	90-100	80-89	70-79	0-69

TABLE B. U. S. Standards for Grades of Frozen Whole Kernel (Whole Grain) Corn (August 1, 1952)

Factors	Score Points			
	Grade A	Grade B	Grade C	Grade D
Color	9-10	8	6-7*	0-5**
Absence of Defects	36-40	32-35**	28-31**	0-27**
Tenderness and Maturity	45-50	40-44**	36-39**	0-35**
Total Score	90-100	50-89	70-79	0-69

* - Indicates partial limiting rule

** - Indicates limiting rule

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TABLE C. U.S. Standards for Grades of Frozen Corn-on-the-Cob (August 7, 1950).

Factors	Score Points		
	Grade A	Grade B	Grade D
Color	17-20	14-16**	0-13**
Absence of Defects	34-40	28-33**	0-27**
Tenderness and Maturity	34-40	28-33**	0-27**
Total Score	85-100	70-84	0-69

TABLE D. U. S. Standards for Grades of Canned Cream Style Corn (July 27, 1953).

Factors	Score Points			
	Grade A	Grade B	Grade C	Grade D
Color	9-10	8	6-7*	0-5**
Consistency	18-20	16-17	14-15**	0-13**
Absence of Defects	18-20	16-17**	14-15**	0-13**
Tenderness and Maturity	27-30	24-26*	22-23**	0-21**
Flavor	18-20	16-17	14-15**	0-13**
Total Score	90-100	80-89	70-79	0-69

* - Indicates partial limiting rule

** - Indicates limiting rule

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The first cutting of the samples processed in 1953 was made in November, the second cutting in March, and the third cutting in November of 1954. The average USDA score points and grade results are given, as well as additional quality data, for canned whole grain corn in TABLE 3, frozen whole grain corn in TABLE 4, frozen corn-on-the-cob in TABLE 5, and canned cream style corn in TABLE 6. Additional data for the canned cream style corn are also presented in TABLE 7-a and 7-b (formula for each lot).

Objective Quality Evaluation

Objective quality analyses were made on all lots immediately after grading, after cutting, after washing, after blanching, of the frozen product and of the canned product.

A. Percent AIS - The. F. & DA method as follows:

1. Comminute (macerate) a 100 gram representative sample of drained corn, free of silk, husk and cob, with an equal amount of water (100 grams).

2. Weigh 20 grams of the comminuted corn (to give a 10 gram sample of corn) to the nearest 0.01 gram; wash into a 600 cc. beaker with 300 cc. of 80 percent alcohol (by volume).

3. Stir, cover beakers, bring to a boil, simmer slowly for exactly 30 minutes and keep sides of beaker washed down with rubber policeman.

4. Fit a Buchner funnel with a previously prepared filter paper* of such size that its edges extend one-half inch or more up the vertical sides of the funnel. Apply suction and transfer the product from No. 4 above. Do not allow any of the product to run over the edge of the paper. Wash the material on the filter with 80 percent alcohol until the washings are clear and colorless.

5. Transfer the filter paper with the material retained thereon to the dish used in preparing the filter paper. Dry the material in a ventilated oven without covering the dish for two (2) hours at 100° C.

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6. Place the cover on the dish, cool in a desiccator and promptly weigh.

7. From this weight, substract the weight of the dish, cover and paper as previously found. The weight in grams thus obtained, multiplied by ten (10) shall be considered to be the percent of alcohol-insoluble solids.

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* - The previous preparation of the filter paper consists of drying in a flat bottomed dish for two (2) hours at 100° C., covering the dish with a tight fitting cover, cooling it in a desiccator and promptly weighing.

The AIS data for the whole kernel corn for the various steps during processing are presented in TABLE 8.

B. Succulence. Kramer's method was used for determining the succulence of each lot of corn. In brief, this is as follows:

1. A representative sample (100 grams) is placed in the sample chamber.

2. The plunger is placed in the sample chamber.

3. Chamber and plunger are placed in position.

4. The cylinder (50 ml. grad.) is placed in position.

5. Close valve tightly and pump handle up and down until ram has made contact with plunger. Continue to pump slowly to prevent gushing of liquid. Pump until 500 pounds pressure is reached.

6. Maintain 500 pounds pressure for exactly three minutes.

7. At the end of three minutes, open valve, remove plunger from chamber, clean out corn, wash out chamber and plunger, dry and the chamber is ready for the next sample.

8. Remove cylinder and record the volume of liquid collected.

The succulence data for the whole kernel corn for the various steps during processing are presented in TABLE 9.

C. Soluble Solids.

The soluble solids content was determined by taking a representative sample, macerating in a mortar with a pestle, expressing through a cheese cloth, and measuring the soluble solids content on an Abbe "56" Refractometer.

The soluble solids data for the whole kernel corn for the various steps during processing are presented in TABLE 10.

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D. Mositure Content.

It was planned to determine the moisture content in two ways: (1) Steinlite Moisture Method and (2) Vacuum Oven Method; however, the Steinlite instrument was not available until after the end of the season. Therefore moisture was determined by the vacuum oven method only. The following procedure was used:

1. Duplicate representative samples (25 gms. were weighed into drying dishes.

2. The sample was then dried for 6 hours under 26 inches of vacuum at 70° C. During the drying a slow current (2 bubbles second) of dry air (dried by passing through concentrated sulfuric acid) was passed through the vacuum chamber.

3. The sample was then cooled in a desiccator for 30 minutes, reweighed and the moisture content calculated.

The moisture values as determined by the vacuum oven method for the whole kernel corn for the various steps during processing are presented in TABLE 11.

E. Pericarp. The following method as developed at Ohio State University was used to determine pericarp:

1. Comminute a representative sample (25 grams) of corn, free from silk, husk and cob, in 200 cc. of water by means of a Waring Blendor for exactly 3 minutes.

2. Wash the blended mixture into a previously weighed monel screen; wash with water until the washings are clear.

3. Dry the screen and contents in a ventilated oven for 2 hours at 100° C.

4. After the drying period, cool the screen in a desiccator, promptly weigh to the nearest .005 gram.

5. Subtract the weight of the screen and contents from the original weight of the empty screen and obtain the weight of the pericarp. Multiply this figure by 4 for percent pericarp.

The pericarp values for the whole kernel corn for the various steps during processing are presented in TABLE 12.

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TABLE 1-a. Some Plant and Ear Characteristics of Corn During Maturation. 1953.

TENDERMOST

Harvest	Date	Percent in Tassel	No. of Ears Per Plant	Percent Green Silk	Percent Dry Silk
1	7/25	100	.90	49	0
	8/1	100	.99	96	33
	8/8	100	1.5	100	67
	8/15	100	1.5	100	100
2	7/25	90	.27	0	0
	8/1	100	.64	94	16
	8/8	100	.88	100	35
	8/15	100	.85	99	99
	8/23	-	.68	100	100
3	7/25	46	.15	0	0
	8/1	95	.67	37	0
	8/6	100	1.1	100	8
	8/15	100	.86	100	48
	8/23	-	.67	100	94
4	7/25	41	.1	0	0
	8/1	95	.53	0	0
	8/8	100	1.0	92	10
	8/15	100	1.1	100	53
	8/23	-	.77	100	94

VICTORY GOLDEN

1	7/25	92	.94	65	9
	8/1	100	.93	97	61
	8/8	100	1.1	96	74
	8/15	100	1.2	100	96
2	7/25	85	.66	9	0
	8/1	100	.87	100	31
	8/8	100	.89	99	76
	8/15	100	1.1	100	98
	8/23	100	.75	100	100
3	7/25	19	.27	0	0
	8/1	63	.56	20	0
	8/8	98	1.1	71	0
	8/15	100	1.1	99	47
	8/23	100	.85	100	100
4	7/25	40	.43	0	0
	8/1	67	.35	0	0
	8/8	100	1.3	78	0
	8/15	100	1.2	100	52
	8/23	100	.83	100	100

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TABLE 1-b. Some Plant and Ear Characteristics of Corn During Maturation. 1954.

Harvest	Date	Percent in Tassel	No. of Ears Per Plant	Percent Green Silk	Percent Dry Silk
TENDERMOST					
1	7/24	100	.65	100	0
	7/28	100	2.01	90	10
	7/31	100	2.41	88	12
	8/4	100	2.90	31	69
	8/7	100	2.71	12	88
	8/13	100	2.43	3	97
2	7/24	100	0.19	100	0
	7/28	100	1.44	100	0
	7/31	100	2.35	100	0
	8/4	100	2.59	49	51
	8/7	100	2.65	20	80
	8/13	100	2.53	7	93
3	7/24	100	0.05	100	0
	7/28	99	1.11	100	0
	7/31	100	2.44	100	0
	8/4	100	2.51	60	40
	8/7	100	2.51	30	70
	8/13	100	2.31	7	93
4	7/24	100	.00	0	0
	7/28	100	.01	100	0
	7/31	100	.82	100	0
	8/4	100	2.18	100	0
	8/7	100	2.40	76	24
	8/13	100	2.30	35	65
VICTORY GOLDEN					
1	7/24	97	.17	100	0
	7/28	100	1.06	100	0
	7/31	100	1.82	94	6
	8/4	100	2.62	58	42
	8/7	100	2.35	21	79
	8/13	100	2.50	11	89
2	7/24	100	.00	0	0
	7/28	97	1.05	100	0
	7/31	100	2.00	100	0
	8/4	100	2.61	51	49
	8/7	100	2.39	26	74
	8/13	100	2.22	7	93

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TABLE 1-b. (Continued)

Harvest	Date	Percent in Tassel	No. of Ears Per Plant	Percent Green Silk	Percent Dry Silk
3	7/24	98	.00	0	0
	7/28	100	.18	100	0
	7/31	100	1.63	100	0
	8/4	100	2.54	81	19
	8/7	100	2.43	48	52
	8/13	100	2.56	14	86
4	7/24	90	.00	0	0
	7/28	99	.00	0	0
	7/31	100	.22	100	0
	8/4	100	2.06	100	0
	8/7	100	2.41	99	1
	8/13	100	2.58	25	75

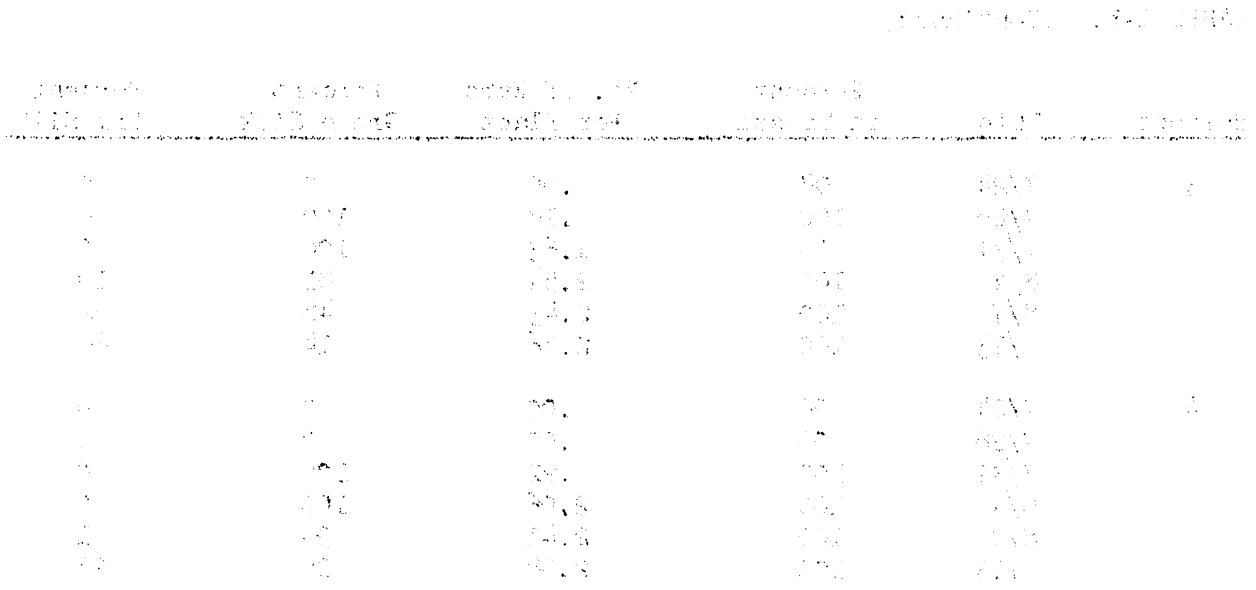

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TABLE 2-a. Heat Units, Grade, Maturity, and Gross Weight by Planting and Harvest, 1953.

Code		Harvest	Total Heat	% AIS	U.S. Raw Product Grade and Maturity						
					No. 1 (percent)			No. 2(percent)		%	Gross
Plant	Harvest	Date	Units	@ cutter	Grade	Class A	Class B	Class C	Grade	Culls	wt.lbs.
1	1	8/10/53	1960	18.3	45	100	0	0	0	0	402
1	2	8/12/53	2050	16.3	45	100	0	0	0	14	332
1	3	8/14/53	2103	23.9	65	100	0	0	0	3	332
1	4	8/19/53	2193	23.3	63	97	3	0	0	3	273
2	1	8/21/53	2086	22.2	65	81.5	18.5	0	0	2	223
2	2	8/24/53	2154	25.2	70	75.5	24.5	0	0	1	268.5
2	3	8/26/53	2205	27.4	72	64	36	0	0	1	502.5
2	4	8/28/53	2258	30.0	74	75	25	0	2.5	2	253
3	1	8/31/53	2243	26.1	75.5	94	6	0	0	0	236.8
3	2&3	9/2/53	2301	27.2	77	88	12	0	0.5	0.5	586.5
3	4	9/4/53	2373	30.1	71	73	17	10	2	1.5	223.5
4	1&2	9/9/53	2386	34.8	39.5	16	37	47	35	3	772
									TOTAL		4404.8
VICTORY GOLDEN											
1	1	8/10/53	1960	15.4	49.5	100	0	0	0	0	-
1	2	8/12/53	2050	16.9	53	100	0	0	0	8	466
1	3	8/14/53	2103	20.2	63	97	3	0	0	2	431
1	4	8/17/53	2165	24.0	74	100	0	0	0	0	289.5
2	1	8/19/53	2051	22.0	63	100	0	0	0	2	318
2	2	8/21/53	2086	25.8	66	54.5	45.5	0	0	1	282
2	3	8/24/53	2154	27.7	63	30	63	7	5	0.5	353
2	4	8/26/53	2205	29.7	60.5	23	63	14	10	2	282.5
3	1	8/26/53	2099	22.3	58	79	21	0	0	5	220
3	2	8/28/53	2152	22.7	58.5	95	2.5	2.5	1.5	3	287.5
3	3	8/31/53	2243	25.7	68.5	73	27	0	0	0	340.5
3	4	9/2/53	2301	28.3	56	59	24	17	11.5	0	88.25
4	1	9/2/53	2249	27.5	60	52	32	16	11.5	0	468.5
4	2	9/4/53	2311	30.2	45	17	47	36	25	0	443
									TOTAL		4269.75

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TABLE 2-b. Heat Units, Grade Maturity and Gross Weight by Planting and Harvest, 1954.

Code		Harvest	Total Heat	(F.R.) % AIS	U. S. Raw Product Grade and Maturity						Gross
					No. 1. (percent)			No. 2(percent)			
Plant	Harvest	Date	Units	@ cutter	Grade	Class A	Class B	Class C	Grade	Culls	wt.lbs.
1	1	8/10/54	1843	13.1	58	100	0	0	0	8.5	410
1	2	8/14/54	1904	20.8	62	100	0	0	0	3	564
1	3	8/17/54	1980	21.5	66.5	99	1	0	0	5	534
1	4	8/23/54	2126	27.1	69	90	10	0	0	1	502
2	1	8/18/54	1963	22.4	67	97	3	0	0	0	623
2	2	8/20/54	2010	23.8	64	100	0	0	0	5	550
2	3	8/27/54	2197	27.8	71	78	21	1	1	2	508
2	4	9/1/54	2295	33.9	67	45.5	49.5	5	3.5	1.5	458
3	1	8/25/54	2099	26.1	68	93	5.5	1.5	1.5	5	538
3	2&3	8/30/54	2216	30.0	62	72	17	11	7.5	2	1132
3	4	9/9/54	2436	42.0	30	7.5	30	62.5	50	0	369
4	1&2	9/3/54	2133	25.6	71.5	77.5	22.5	0	0	2.5	1069
4	3	9/7/54	2244	31.0	67	32	62	6	4	2.5	360
4	4	9/11/54	2315	36.0	47	18	48.5	33.5	24	6	302
										TOTAL	7119
VICTORY GOLDEN											
1	1	8/17/54	1980	18.7	60.5	100	0	0	0	4.5	708
1	2	8/18/54	2002	22.1	51	100	0	0	0	8	789
1	3	8/20/54	2049	23.0	60	100	0	0	0	1.5	803
1	4	8/27/54	2236	27.8	62	61	31.5	7.5	5	0	813
2	1	8/23/54	2087	23.0	57	100	0	0	0	3	934
2	2	8/25/54	2148	23.9	60	100	0	0	0	3.5	1014
2	3&4	8/30/54	2265	30.2	61	26.5	69	4.5	3	4	1531
3	1&2	9/1/54	2246	29.2	64	22.5	71.5	6	4	0	1773
3	3	9/7/54	2398	34.3	31	1.5	40	58.5	44	1	700
4	1	9/3/54	2133	27.0	62.5	38	60.5	1.5	1	1.5	1275
4	2	9/9/54	2282	31.8	47	9.5	55	35.5	26	1	1156
4	4	9/11/54	2315	36.0	26	1.5	35.5	63.0	44	22	1295
										TOTAL	12,791

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TABLE 3. Grade Relationship of Canned Whole Kernel Yellow Sweet Corn by Raw Product Grade, Variety, and Year.

Raw Prod. Class Lot. No.	Variety	Year	Repl.	Cutting[xx]	U.S.D.A. Score Points[x] Color	Cut	Absence of Def.	Tend. & Mat.	Flavor	Total Score	Grade
A	Tender-most	1953	10	1	8.70	8.50	17.90**	35.75**	17.95	88.80	B
			10	2	8.95	8.60	18.60	35.75**	17.50	89.40	B
			6	3	8.83	8.00	17.83**	34.67**	17.17	87.17	B
			26	Avg.	8.83	8.42	18.15	35.50**	17.60	88.65	B
		1954	11	1	8.36	8.09	17.54**	33.64**	16.27	82.36	B
	VG	1953	12	1	8.88	8.54	17.92**	36.33	18.25	89.88	B
			12	2	8.92	8.75	18.42	36.12	17.79	90.00	A
			9	3	8.78	7.89**	17.72**	35.33**	17.33	87.06	B
			33	Avg.	8.87	8.44	18.05	35.98**	17.83	89.15	B
		1954	10	1	8.90	8.00	17.60**	34.60**	16.90	86.10	B
B	Tender-most	1953	5	1	9.40	8.90	18.60	30.70**	14.20**	81.50	C
			4	2	9.50	9.00	18.62	31.12**	14.88**	83.12	C
			3	3	9.33	8.00	18.33	27.00**	14.00**	76.67	D
			12	Avg.	9.42	8.71	18.54	29.91**	14.38**	80.83	D
		1954	6	1	7.83	8.00	16.50**	26.67**	11.00**	70.00	D
	VG	1953	6	1	8.83	8.75	18.33	34.58**	17.33	87.83	B
			5	2	9.60	9.00	18.70	34.50**	17.20	88.90	B
			3	3	9.00	8.00	18.00	32.00**	15.43**	82.71	B
			14	Avg.	9.14	8.68	18.39	34.00**	16.88	87.12	B
		1954	5	1	8.00	8.00	17.40**	29.40**	13.60**	76.40	D
C	Tender-most	1953	1	1	10.00	9.00	19.00	27.5 **	10.0 **	75.5	D
		1954	2	1	7.50	8.00	17.0 **	20.0 **	7.5**	59.5	D
	VG	1953	2	1	8.75	8.75	18.25	33.00**	16.25	85.00	B
			1	2	9.00	9.00	19.00	34.50**	17.00	88.00	B
			3	Avg.	8.83	8.83	18.50	33.50**	16.50	86.00	B
		1954	1	1	7.50*	8.00	17.50**	17.50**	7.50**	58.0	D

x - Graded according to U.S. Standards for Canned Whole Kernel Corn - (6/1/52). Average values given.
xx - Cutting - 1 - 2 months; 2 - 6 months; and 3 - 14 months after packing.
* - Limiting partial rule within grade.
** - Limiting rule within grade.

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TABLE 4. Grade Relationship of Frozen Whole Kernel Yellow Sweet Corn by Raw Product Grade, Variety, and Year.

Raw Prod. Class Lot No.	Variety	Year	Repl.	Cutting[xx]	U.S.D.A. Score Points[x] Color	Absence of Def.	Tend. & Mat.	Total Score	Grade
A	Tender-most	1953	9	1	9.00	36.78	46.33	92.11	A
			8	2	9.12	38.44	46.81	94.38	A
			8	3	9.40	38.33	47.27	94.93	A
			25	Avg.	9.17	37.81	46.78	93.73	A
		1954	11	1	9.36	37.18	46.00	92.54	A
	VG	1953	11	1	8.82	37.36	46.59	92.77	A
			10	2	8.75	38.05	47.95	94.75	A
			10	3	8.89	37.72	48.11	94.72	A
			31	Avg.	8.82	37.30	47.52	94.04	A
		1954	10	1	9.10	36.90	46.80	92.80	A
B	Tender-most	1953	7	1	9.00	37.44	39.93**	86.36	C
			7	2	8.92	38.58	38.67**	86.17	C
			7	3	8.80	38.00	41.40	88.20	B
			21	Avg.	8.91	38.01	40.00**	86.91	B
		1954	6	1	8.00	35.67**	31.33**	75.00	D
	VG	1953	4	1	8.88	36.38	44.62**	89.88	B
			4	2	8.50	38.38	46.75**	93.62	A
			4	3	9.00	38.25	45.75	93.00	A
			12	Avg.	8.79	37.67	45.71	92.17	A
		1954	5	1	8.60	36.60	39.60**	84.80	C
C	Tender-most	1953	2	1	7.75*	37.50	28.25**	73.50	D
			1	2	8.00	35.00**	30.00**	73.00	D
			3	Avg.	7.83*	36.67	28.83	73.33	D
	VG	1953	1	1	8.50	35.50**	40.00**	84.00	B
			1	2	8.00	36.00	39.00	83.00	C
			2	Avg.	8.25	35.75**	39.50**	83.50	C

x - Graded according to U. S. Standards for Frozen Corn (8/1/52). Average values given.

xx - Cutting - 1 - 2 months, 2 - 6 months and 3 - 14 months after packing.

* - Limiting partial rule within grade

** - Limiting rule within grade.

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TABLE 5. Grade Relationship of Frozen Corn-on-the-Cob by Raw Product Grade, Variety, and Year.

Raw Prod. Class Lot No.	Variety	Year	Repl.	Cutting[xx]	U.S.D.A. Score Points[x] Color	Absence of Def.	Tend. & Mat	Total Score	Grade
A	Tender-most	1953	4	1	18.75	36.00	36.69	91.44	A
			4	2	18.69	37.38	34.94	91.00	A
			4	3	18.38	35.88	37.25	91.50	A
			12	Avg.	18.61	36.42	36.29	91.31	A
		1954	7	1	18.39	37.46	37.07	92.93	A
A	VG	1953	5	1	18.19	37.53	37.08	92.79	A
			5	2	17.65	38.85	35.60	92.10	A
			5	3	17.33	36.33	36.50	90.25	A
			15	Avg.	17.72	37.57	36.39	91.71	A
		1954	7	1	18.28	37.82	35.36	90.96	A
B	Tender-most	1953	2	1	18.12	36.00	32.75	86.75	B
			2	2	17.62	32.75	31.00	80.62	B
			2	3	18.25	37.25	34.88	90.38	A
			6	Avg.	18.00	35.33	32.88	85.92	
B	VG	1953	2	1	17.00	36.71	33.86	89.00	B
			2	2	17.12	37.25	29.12	83.50	B
			1	3	18.50	37.00	35.50	91.00	A
			5	Avg.	17.35	36.98	32.29	87.20	

x - Graded according to U. S. Standards for Corn (8/7/50).
xx - Cutting - 1 - 2 months; 2 - 6 months; and 3 - 14 months after packing.

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TABLE 6. Grade Relationship of Canned Cream Style Corn by Raw Product Grade, Variety and Year.

Raw Prod. Class Lot No.	Variety	Year	Rep.	Cutting[xx]	U.S.D.A. Score Points[x] Color	Cons.	Absence of Def.	Tend. & Mat.	Flavor	Total Score	Grade
A	Tender-most.	1953	5	1	8.40	17.50	18.40	24.70**	16.10	85.10	B
			5	2	8.20	17.70	18.10	24.70**	15.50**	84.20	C
			4	3	8.75	18.12	17.88	24.38**	15.50**	84.62	C
			14	Avg.	8.43	17.75	18.14	24.61**	15.71**	84.64	C
		1954	12	1	8.00	15.29**	16.88**	24.08**	15.25	79.92	C
	VG	1953	2	1	7.75*	17.25	17.75**	25.50**	15.50**	83.75	C
			2	2	7.25*	17.50	17.25**	26.75	16.75	85.50	B
			2	3	8.50	19.25	19.00	23.50**	15.00**	85.25	C
			6	Avg.	7.83*	18.00	18.00	25.25**	15.75**	84.83	C
		1954	11	1	8.38	18.08	17.75**	25.79**	17.67	87.67	B
BB	VG	1953	1	1	7.50*	17.00	18.00	23.50**	15.50**	81.50	C
			1	2	8.00	17.50	18.00	22.00**	14.00**	79.50	C
			2	Avg.	7.75*	17.25	18.00	22.75**	14.75**	80.50	C
	Tender-most	1954	1	1	8.00	13.00**	17.00**	20.00**	10.00**	68.00	D
	VG	1954	14	1	8.14	16.14	17.36**	21.86**	13.89**	77.36	D
CC	VG	1953	1	1	8.75	17.25	18.75	22.75**	14.75**	82.25	C
			1	2	8.50	16.75	17.25**	22.50**	14.50**	79.50	C
			2	Avg.	8.62	17.00	18.00	22.62**	14.62**	80.88	C
		1954	3	1	7.67*	14.33**	16.17**	14.33**	10.67**	63.17	D
A-B-C	Tender-most	1953	6	1	8.28	15.93**	17.28**	22.43**	14.07**	78.00	C
			6	2	8.50	15.86**	16.86**	22.43**	14.14**	77.64	C
			5	3	8.50	16.42	17.67**	21.83**	14.17**	78.58	C
			17	Avg.	8.42	16.05	17.28**	22.25**	14.12**	78.05	C
	VG	1953	1	1	9.00	16.50	18.00	24.50**	16.50	84.50	B
			1	2	7.50*	17.00	17.50**	24.00**	16.00	82.00	B
			1	3	9.00	18.00	18.00	25.00**	16.00	86.00	B
			3	Avg.	8.50	17.17	17.83**	24.50**	16.17	84.17	B
AB	Tender-most	1954	3	1	7.67*	12.67**	16.00**	15.33	9.00**	64.00	D
	VG	1954	6	1	8.33	17.08	18.00	22.33	14.33**	79.92	C
B-B-C	VG	1953	1	1	8.50	16.00	17.50**	23.50**	15.50**	81.00	C
			1	2	8.00	16.50	19.00	22.50**	14.50**	80.50	C
			1	3	8.00	18.00	19.00	26.00	17.00	88.00	B
			3	Avg.	8.17	16.83	18.50	24.00**	15.67**	83.17	C

x - Graded according to U. S. Standards for Corn (7/30/52). Average values given.
xx - Cutting - 1 - 2 months; 2 - 6 months; and 3 - 14 months after packing.
* - Limiting partial rule within grade.
** - Limiting rule within grade.

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TABLE 7-a. Raw Product and Ingredient Composition of Cream Style Corn - 1953.

TENDERMOST

Date	Code	Raw Product Composition* (pounds) W.K.	Cr.	Water (lbs)	Sugar (lbs)	Salt (lbs)	Starch (grams)	Type of Starch	Approximate Total Weight (pounds)
8/31/53	41249	A-25	A-25	35	2.75	.35	78	Hoosier	88
9/2/53	41321	A-20	A-30	25	3	.35	78	Hoosier	78
9/2/53	41329	A-25	A-25	25	3	.35	78	Hoosier	78
9/2/53	41320	A-30	A-20	25	3	.35	78	Hoosier	78
9/4/53	41349	A-25	A-25	28	3	.35	none	--	81
69093	41410	A-10 B-10	C-20	31	3.5	.35	50	Purity NGS	75
59093	41410	A-10 B-10	C-20	31	3.5	.35	62	Clear jet	75
49093	41410	A-10 B-10	C-20	31	3.5	.35	62	SK 5	75
39093	41410	A-10 B-10	C-20	31	3.5	.35	62	SK 3	75
29093	41410	A-10 B-10	C-20	31	3.5	.35	62	Hoosier	75
19093	41410	A-10	C-20	31	3.5	.35	none	--	75

VICTORY GOLDEN

8/31/53	42329	A-25	A-25	35.41	2.4	.35	78	Hoosier	88
9/2/53	42419	A-25	B-25	31.5	3	.35	78	Hoosier	85
9/2/53	42340	B-25	B-8 C-17	26	4	.35	78	Hoosier	80
9/4/53	42420	B-25	B-25	34	3	.35	none	--	87
9/4/53	42421	C-25	C-25	44	3	.35	none	--	97
9/4/53	42429	A-2 5	B-15 C-15	44	4	.35	none	--	103

* A - Maturity Class A
B - Maturity Class B
C - Maturity Class C

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TABLE 7-b. Raw Product and Ingredient Composition of Cream Style Corn - 1954.

TENDERMOST

Date	Code	Raw Product Composition* (pounds) W.K.	Cr.	Water (lbs)	Sugar (lbs)	Salt (lbs)	Hoosier Starch (grams)	Approximate Total Weight (pounds)
08174	41139	A-50		25	3.0	.35	78	78
08184	41299	A-50		15	3.25	.35	78	68
08704	41289	A-50		15	3.25	.35	78	68
08234	41169	A-50		20	3.5	.35	78	74
08254	41399	A-50		15	3.5	.35	78	69
08274	41279	A-50		15	3.5	.35	78	69
08304	41388	A-25	B-25	15	3.5	.35	0	69
18304	41388	A-25	B-25[x]	17	3.5	.35	0	71
28304	41389	A-50		15	3.5	.35	0	69
38304	41389	A-25	A-25[x]	17	3.5	.35	0	71
09034	41499	A-50		15	3.5	.35	0	69
09034	41496	B-50		15.3	3.6	.32	0	69
19034	41499	A-50		17	4.0	.33	0	71
29034	41499	A-50		19	4.5	.35	0	74
09114	41468	Field Run		20	5.0	.40	0	--

VICTORY GOLDEN

08174	42199	A-50		25	3.0	.35	78	78
08134	42189	A-50		20	3.5	.35	78	74
08204	42179	A-50		15	3.25	.35	78	68
08234	42299	A-50		15	3.5	.35	78	68
18234	42299	A-50		15	3.5	.35	0	68
28234	42299	A-42		15	3.5	.35	39	63
08254	42289	A-50		15	3.5	.35	78	69
18254	42289	A-50		17	3.5	.35	78	71
28254	42289	A-50		19	3.5	.35	78	73
08274	42168	A-50	B-50	20	3.5	.35	78	124
18274	42168	A-24	B-25[x]	20	3.5	.35	78	74
08304	42276	B-25	B-25[x]	17	3.5	.35	0	71
18304	42276	B-25	B-25[x]	17	3.5	.35	0	71
28304	42278	A-25	B-25[x]	17	3.5	.35	0	71
38304	42278	A-25	A-25[x]	17	3.5	.35	0	71
48304	42278	A-25	B-25	17	3.5	.35	0	71
58304	42276	B-50		17	3.5	.35	0	71
09014	42396	B-50		15	3.5	.35	0	69
09014	42398	A-25	B-25	15	3.5	.35	0	69
09014	42399	A-50		15	3.5	.35	0	69
19014	42396	B-50		17	4.0	.35	0	71
29014	42396	B-50		19	4.5	.35	0	74
39014	42396	B-50		21	5.0	.35	0	76
09034	42493	B-25	B-25[x]	19	4.0	.35	0	73
09034	42496	A-25	B-25[x]	19	4.0	.35	0	73

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TABLE 7-b. (Continued)

VICTORY GOLDEN

Date	Code	Raw Product Composition* (pounds) W.K.	Cr.	Water (lbs)	Sugar (lbs)	Salt (lbs)	Hoosier Starch (grams)	Approximate Total Weight (pounds)
09034	42499	A		19	4.0	.35	0	
29034	42496	B-25	B-25	19	4.0	.35	0	73
39034	42496	B		19	4.0	.35	0	--
09074	42371	C-32		15	3.0	.21	0	50
09074	42376	B-30		10.2	2.4	.21	0	43
09094	42481	C-50		21	5.0	.35	0	76
09094	42486	B-50		17	4.0	.35	0	71
19094	42486	B-50		19	4.0	.35	0	73
09114	42460	Field Run		20	5.0	.40	0	--
09114	42461	C-50		20	4.0	.40	0	74
09114	42461A	Field Run - 50		20	5.0	.40	0	75
09114	42466	B-50		20	5.0	.40	0	75

* A - Maturity Class A
B - Maturity Class B
C - Maturity Class C

x - All other lots than these produced by conventional cream style cut. These lots were whole kernel cut. Maturity class and weight are given in 1st and 2nd column. The corn in Column 1 was slitted and the cream component was made from corn of maturity class in 2nd column by comminuting.

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TABLE 8. Average Percent Alcohol Insoluble Solids Content of Whole Kernel Yellow Sweet Corn During 1953 and 1954 for Three Raw Product Maturity Classes by Variety and Year.

Maturity Class	Variety	Year	Sample Points: Raw Prod.	Cutter	Washer	Blancher	Canned	Frozen
A	Tendermost	1953	25.85	24.68	23.53	22.37	20.58	23.91
		1954	24.45	23.78	23.50	22.70	21.03	24.01
		Av.	25.09	24.23	23.52	22.54	20.71	23.94
	Victory Golden	1953	25.09	23.53	21.68	20.02	19.21	22.94
		1954	24.68	24.73	22.52	23.59	19.97	23.63
		Av.	24.90	24.05	22.03	21.72	19.39	23.11
Average by Maturity Class A			25.00	24.14	22.76	22.14	20.01	23.50
B	Tendermost	1953	32.21	31.40	30.29	28.82	26.25	28.53
		1954	33.00	33.07	31.68	30.44	24.24	30.74
		Av.	32.58	32.34	30.88	29.57	25.62	29.02
	Victory Golden	1953	29.86	28.61	26.85	24.80	22.50	26.20
		1954	30.50	29.35	28.81	27.27	23.59	27.63
		Av.	30.13	29.00	27.60	26.04	22.77	26.62
Average by Maturity Class B			31.49	30.62	29.30	28.04	24.16	28.09
C	Tendermost	1953	36.40	36.07	35.64	33.04	26.67	33.29
		1954	38.72	37.98	37.20	36.18	29.38	
		Av.	37.56	37.34	36.42	34.61	28.48	
	Victory Golden	1953	31.95	30.79	30.28	26.06	24.43	26.90
		1954	36.35	35.83	33.31	31.72	25.56	
		Av.	32.83	33.59	31.63	29.83	25.08	
Average by Maturity Class C			34.93	35.09	33.10	31.74	26.10	30.73
Average Disregarding Maturity For:	Tendermost		29.05	28.76	27.29	26.12	22.69	26.44
	Victory Golden		27.74	27.52	25.48	24.20	20.95	24.23
For:		1953	28.70	27.09	25.83	23.95	21.43	25.28
		1954	28.13	29.09	26.99	26.42	22.51	25.72
	GRAND AVERAGE		28.44	28.17	26.33	25.19	21.75	25.39

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TABLE 9. Average Succulometer Values for Whole Kernel Yellow Sweet Corn During 1953 and 1954 for Three Raw Product Maturity Classes by Variety and Year.

Maturity Class	Variety	Year	Sample Points: Raw Prod.	Cutter	Washer	Blancher	Canned	Frozen
A	Tendermost	1953	12.33	15.78	21.12	13.70	16.13	21.16
		1954	13.83	16.26	21.57	15.34	18.73	19.88
		Av.	13.15	16.02	21.34	14.52	16.90	20.77
	Victory Golden	1953	13.86	16.58	21.59	14.27	17.15	23.16
		1954	15.78	16.45	23.57	15.50	20.95	21.92
		Av.	14.77	16.52	22.42	14.86	18.03	22.86
Average by Maturity Class A			13.90	16.26	21.89	14.69	17.51	21.88
B	Tendermost	1953	5.62	9.50	13.15	7.62	11.64	14.73
		1954	6.06	9.11	13.17	8.00	13.13	13.27
		Av.	5.84	9.28	13.16	7.78	12.09	14.40
	Victory Golden	1953	8.46	12.10	18.25	10.50	14.50	18.68
		1954	8.40	12.39	15.60	11.30	18.20	16.70
		Av.	8.44	12.25	17.23	10.90	15.42	18.10
Average by Maturity Class B			6.95	10.81	15.12	9.08	13.76	15.83
C	Tendermost	1953	2.25	4.25	8.75	5.50	11.00	10.15
		1954	2.25	5.50	9.75	4.25	10.50	
		Av.	2.25	5.08	9.25	4.88	10.67	
	Victory Golden	1953	5.00	7.30	14.10	9.50	13.83	16.00
		1954	3.00	5.90	12.75	8.25	13.38	
		Av.	4.60	6.52	13.50	8.67	13.57	
Average by Maturity Class C			3.56	5.94	12.19	7.15	12.70	12.49
AAverage Disregarding Maturity For:	Tendermost		9.33	12.25	17.37	11.20	14.98	17.68
	Victory Golden		11.25	13.20	19.21	12.78	16.84	21.28
For:		1953	9.53	13.17	18.26	11.57	15.42	19.60
		1954	10.97	12.34	18.43	12.36	17.36	18.78
	GRAND AVERAGE		10.21	12.74	19.34	11.96	15.98	19.39

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TABLE 10. Average Percent Soluble Solids Content of the Expressed Juice of Whole Kernel Yellow Sweet Corn During 1953 and 1954 for Three Raw Product Maturity Classes by Variety and Year.

Maturity Class	Variety	Year	Sample Points: Raw Prod.	Cutter	Washer	Blancher
A	Tendermost	1953	27.31	25.29	22.81	22.19
		1954	26.03	24.90	22.07	20.85
		Av.	26.61	25.10	22.46	21.52
	Victory Golden	1953	26.02	24.28	22.00	22.29
		1954	26.82	26.76	22.86	21.32
		Av.	26.40	25.36	22.36	21.80
Average by Maturity Class A			26.51	25.23	22.41	21.65
B	Tendermost	1953	30.61	28.48	26.31	26.96
		1954	28.99	27.38	23.55	23.87
		Av.	29.80	27.86	25.13	25.64
	Victory Golden	1953	28.91	26.74	24.81	26.96
		1954	29.48	28.16	25.02	24.34
		Av.	29.15	27.49	24.89	25.65
Average by Maturity Class B			29.52	27.67	25.01	25.64
C	Tendermost	1953	30.50	30.25	28.40	27.85
		1954	29.45	27.22	24.40	23.60
		Av.	29.80	28.23	26.40	25.73
	Victory Golden	1953	31.50	28.50	25.56	27.45
		1954	32.10	28.18	25.65	23.80
		Av.	31.62	28.32	25.60	24.76
Average by Maturity Class C			30.94	28.28	25.85	25.08
Average Disregarding Maturity For: Tendermost			28.09	26.47	23.76	23.38
Victory Golden			28.04	26.64	23.71	23.44
For:		1953	28.43	26.24	23.98	24.42
		1954	27.68	26.86	23.40	22.36
GRAND AVERAGE			28.06	26.56	23.73	23.40

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TABLE 11. Average Percent Moisture Content (Vacuum Oven) of Whole Kernel Yellow Sweet Corn During 1953 and 1954 for Three Raw Product Maturity Classes by Variety and Year.

Maturity Class	Variety	Year	Sample Points: Raw Prod.	Cutter	Washer	Blancher
A	Tendermost	1953	67.19	69.49	70.78	72.96
		1954	68.60	69.80	71.62	72.44
		Av.	67.96	69.64	71.18	72.70
	Victory Golden	1953	66.07	69.68	71.82	75.58
		1954	69.22	68.88	72.36	73.30
		Av.	67.56	69.33	72.05	74.49
Average by Maturity Class A			67.77	69.49	71.62	73.57
B	Tendermost	1953	62.26	62.79	64.68	66.46
		1954	61.11	60.15	62.55	64.12
		Av.	61.68	61.21	63.77	65.46
	Victory Golden	1953	63.94	65.75	66.98	71.20
		1954	63.59	64.98	66.10	68.06
		Av.	63.79	65.34	66.64	69.63
Average by Maturity Class B			62.58	63.40	65.15	67.20
C	Tendermost	1953	57.23	59.30	59.72	61.89
		1954	56.03	55.61	56.67	61.72
		Av.	56.63	56.84	58.20	61.80
	Victory Golden	1953	61.08	62.03	64.58	67.16
		1954	59.40	59.15	61.84	62.84
		Av.	60.74	60.43	63.36	64.28
Average by Maturity Class C			58.91	58.99	61.77	63.29
Average Disregarding Maturity For: Tendermost			64.49	65.12	67.38	69.08
Victory Golden			65.36	66.31	68.75	71.52
For:		1953	64.32	66.87	68.30	71.27
		1954	65.53	64.71	67.84	69.20
GRAND AVERAGE			64.88	65.74	68.10	70.25

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TABLE 12. Average Percent Pericarp Content of Whole Kernel Yellow Sweet Corn During 1953 and 1954 for Three Raw Product Maturity Classes by Variety and Year.

Maturity Class	Variety	Year	Sample Points: Raw Prod.	Cutter	Washer	Blancher	Canned	Frozen
A	Tendermost	1953	3.39	3.28	3.64	3.80	1.69	1.92
		1954	2.11	2.07	2.02	2.32	1.40	1.99
		Av.	2.66	2.62	2.75	3.06	1.60	1.95
	Victory Golden	1953	4.15	2.98	3.20	2.77	1.28	1.90
		1954	1.96	2.05	2.06	2.13	1.28	1.87
		Av.	3.12	2.46	2.60	2.45	1.28	1.89
Average by Maturity Class A			2.86	2.55	2.68	2.77	1.43	1.92
B	Tendermost	1953	6.07	5.52	5.37	5.02	2.93	3.06
		1954	2.94	2.97	3.07	4.38	2.09	2.74
		Av.	4.40	3.99	4.12	4.72	2.68	2.96
	Victory Golden	1953	4.94	5.35	4.70	3.95	1.61	2.11
		1954	2.70	2.61	2.90	2.99	1.76	2.32
		Av.	4.01	3.45	3.58	3.47	1.65	2.19
Average by Maturity Class B			4.23	3.74	3.89	4.18	2.18	2.66
C	Tendermost	1953	7.85	4.95	5.14	7.79	4.70	5.50
		1954	4.31	4.45	4.42	8.72	2.87	
		Av.	6.08	4.62	5.99	8.26	3.48	
	Victory Golden	1953	6.52	6.99	4.78	5.23	2.79	2.60
		1954	4.34	3.82	3.74	4.14	2.58	
		Av.	6.08	4.72	3.95	4.50	2.62	
Average by Maturity Class C			6.08	4.67	4.72	6.00	2.94	4.53
Average Disregarding Maturity For:	Tendermost		3.65	3.38	3.48	4.15	2.06	2.50
	Victory Golden		3.87	3.22	3.06	3.08	1.49	1.99
For:		1953	4.91	4.22	4.16	4.06	1.77	2.32
		1954	2.53	2.70	2.62	3.21	1.73	2.14
	GRAND AVERAGE		3.75	3.30	3.28	3.63	1.76	2.26

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